



LIEBHERR

OIL ANALYSIS REPORT

WEAR	ABNORMAL
CONTAMINATION	NORMAL
FLUID CONDITION	NORMAL



Area
(355226)
Machine Id
LIEBHERR R938 053191-1650
Component
Hydraulic System
Fluid
PETRO CANADA 10W30 (250 LTR)

RECOMMENDATION

We advise that you check for visible metal particles in the oil. We recommend an early resample to monitor this condition.

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		LH0276221	LH0284893	LH0279024
Sample Date		Client Info		17 May 2024	13 Feb 2024	01 Nov 2023
Machine Age	hrs	Client Info		4468	3960	3610
Oil Age	hrs	Client Info		0	0	0
Filter Age	hrs	Client Info		0	0	0
Oil Changed		Client Info		Not Changd	Changed	Not Changd
Filter Changed		Client Info		N/A	N/A	N/A
Sample Status				ABNORMAL	NORMAL	NORMAL

WEAR

Light concentration of visible metal present.

Iron	ppm	ASTM D5185(m)	>50	5	8	7
Chromium	ppm	ASTM D5185(m)	>15	0	<1	<1
Nickel	ppm	ASTM D5185(m)	>5	0	0	0
Titanium	ppm	ASTM D5185(m)		17	29	27
Silver	ppm	ASTM D5185(m)		0	0	<1
Aluminum	ppm	ASTM D5185(m)	>8	<1	2	1
Lead	ppm	ASTM D5185(m)	>5	0	<1	1
Copper	ppm	ASTM D5185(m)	>15	4	5	11
Tin	ppm	ASTM D5185(m)	>5	0	0	0
Vanadium	ppm	ASTM D5185(m)		0	0	0
White Metal	scalar	Visual*	NONE	▲ VLITE	NONE	NONE
Yellow Metal	scalar	Visual*	NONE	NONE	NONE	NONE

CONTAMINATION

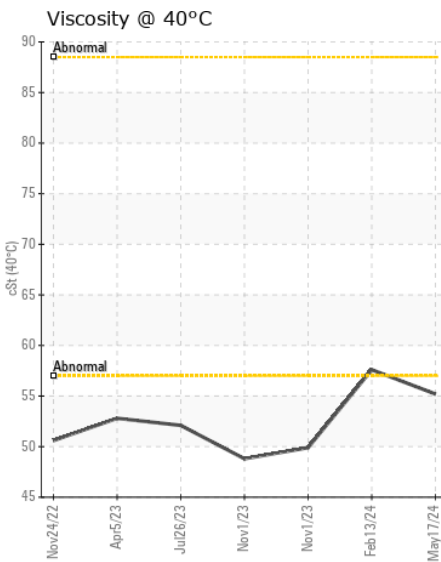
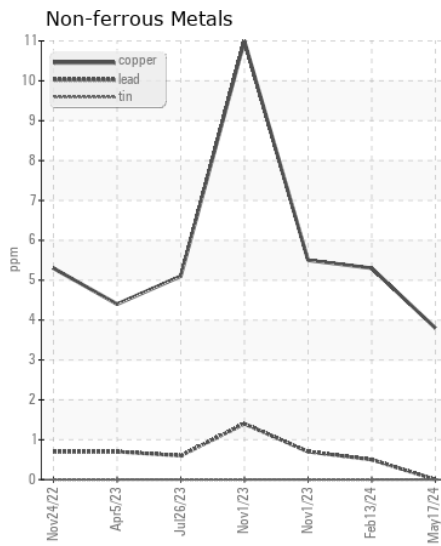
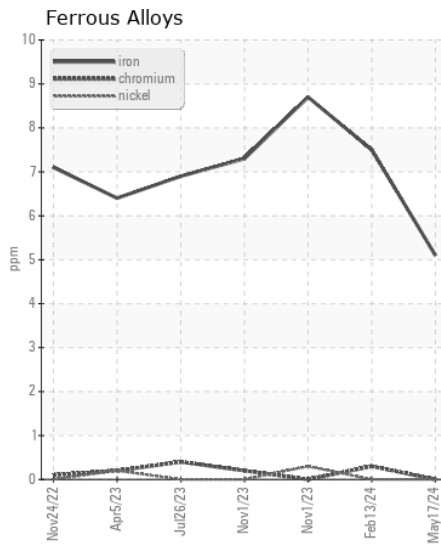
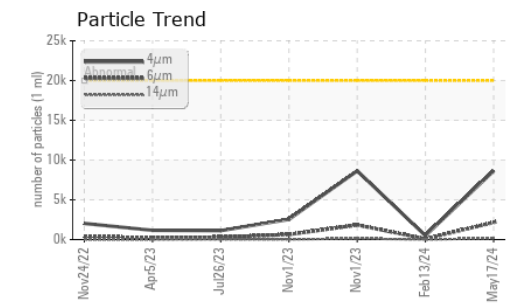
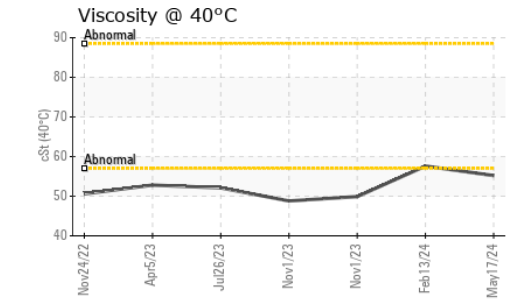
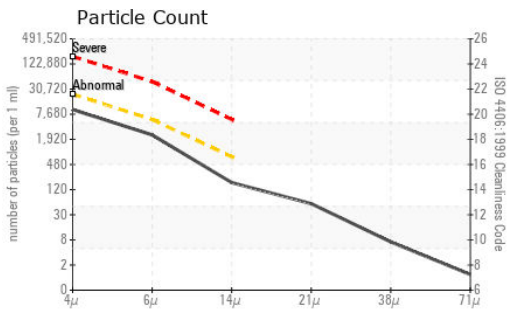
The system cleanliness is acceptable for your target ISO 4406 cleanliness code. The system and fluid cleanliness is acceptable.

Silicon	ppm	ASTM D5185(m)	>25	5	7	7
Potassium	ppm	ASTM D5185(m)	>20	1	2	<1
Water		WC Method	>0.1	NEG	NEG	NEG
Particles >4µm		ASTM D7647	>20000	8641	495	2545
Particles >6µm		ASTM D7647	>5000	2146	89	639
Particles >14µm		ASTM D7647	>640	156	7	28
Particles >21µm		ASTM D7647	>160	49	2	4
Particles >38µm		ASTM D7647	>40	6	1	1
Particles >71µm		ASTM D7647	>10	1	1	1
Oil Cleanliness		ISO 4406 (c)	>21/19/16	20/18/14	16/14/10	19/16/12
Silt	scalar	Visual*	NONE	NONE	NONE	NONE
Debris	scalar	Visual*	NONE	VLITE	NONE	NONE
Sand/Dirt	scalar	Visual*	NONE	NONE	NONE	NONE
Appearance	scalar	Visual*	NORML	NORML	NORML	NORML
Odor	scalar	Visual*	NORML	NORML	NORML	NORML
Emulsified Water	scalar	Visual*	>0.1	NEG	NEG	NEG

FLUID CONDITION

The condition of the oil is acceptable for the time in service.

Sodium	ppm	ASTM D5185(m)		4	4	5
Boron	ppm	ASTM D5185(m)		33	55	53
Barium	ppm	ASTM D5185(m)		0	0	<1
Molybdenum	ppm	ASTM D5185(m)		33	14	13
Manganese	ppm	ASTM D5185(m)		0	0	0
Magnesium	ppm	ASTM D5185(m)		619	384	360
Calcium	ppm	ASTM D5185(m)		1236	1391	1425
Phosphorus	ppm	ASTM D5185(m)		892	877	842
Zinc	ppm	ASTM D5185(m)		1065	975	963
Sulfur	ppm	ASTM D5185(m)		3002	3553	3362
Visc @ 40°C	cSt	ASTM D7279(m)		55.2	57.6	49.9



Laboratory : WearCheck - C8-1175 Appleby Line, Burlington, ON L7L 5H9
Sample No. : LH0276221
Lab Number : 02637204
Unique Number : 5786366
Test Package : MOB 1 (Additional Tests: Bottom, BottomAnalysis, FilterPatch, PrtCount, PrtFilter)

THOMAS CAVANAGH CONSTRUCTION LTD
 RR # 2, 9094 CAVANAGH ROAD
 ASHTON, ON
 CA K0A 1B0
 Contact: Keith

To discuss this sample report, contact Customer Service at 1-800-268-2131.
 Test denoted (*) outside scope of accreditation, (m) method modified, (e) tested at external lab.
 Validity of results and interpretation are based on the sample and information as supplied.

T: (613)257-4995
 F: (613)253-0071